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ART UNIT		PAPER NUMBER		
1742				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ptopatentcommunication@lockelord.com

**Office Action Summary****Application No.**

10/520,689

**Applicant(s)**

NILSSKOG ET AL.

**Examiner**

ATUL KHARE

**Art Unit**

1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 December 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1, 2 and 8-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 8-24 is/are rejected.
- 7) ☒ Claim(s) 8, 13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-040)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment filed 02 December 2010 has been entered and fully considered.
2. Claims 1, 2, and 8-24 are currently pending. Claims 3-7 and 25 are canceled.
3. No new matter has been found.

### ***Claim Objections***

4. Claim 8 is objected to because of the following informalities: The status identifier should be changed to "Previously Presented" since no amendment has been made to the claim. Appropriate correction is required.
5. Claim 13 is objected to because of the following informalities: The period at the end of line 14 of the claim should be deleted. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Rejections over Shoe in view of Blackburn**

9. Claims 1, 2, 8, and 10-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoe et al. (US 3,823,465) in view of Blackburn (US 3,802,790).
10. As to claim 1, Shoe teaches in a method of denticulation of a concrete joint between a first and second cast section (2:54-56): assembling a form at the location of a concrete joint by attaching formwork components together (1:60 - 2:19, figures 1-2), using the form to cast a first slab therein (2:29-32), stripping the form from a cured slab (3:35-40), and casting adjacent slabs to be keyed with the first slab using protrusions 39 formed therein (2:54-56). The slab can be made from concrete (abstract, 1:60-64).

Shoe does not appear to explicitly disclose the specific requirements for the patterned formwork. However, Blackburn teaches in a similar concrete casting method: using a patterned former to pattern a joint between two concrete components (1:60-65). The former can remain in situ or be removed at some stage during construction (abstract). More specifically, the former can either be left intact at the concrete joint, or all/some of the former can be removed at the concrete joint (5:45-55). The former is a studded plate having backs and bridges between square studs positioned laterally/longitudinally in relation to each other in a pattern (figures 2-3 and 8-9). The backs and bridges make up a lattice-like network of inter-communicating channels on the underside of the studded plate (6:41-43). At figures 2, 3, 8, and 9, the backs and bridges comprise a vertex which constitutes an area that is parallel to, separate from, and between (a) a plane comprising the tops of the studs, and (b) a plane comprising the surface of the studded plate. The studs appear to have a stud side wall inclination angle greater than  $60^{\circ}$  (figures 8-9). In the alternative that the studs do not have the required inclination angle, it would have been obvious to substitute the required inclination angle for the inclination angle of the studs in Blackburn's depicted plate because the studs can be of any size, shape, depth, or relative spacing (6:37-38), and the claimed design would have been an obvious change in aesthetic design (MPEP 2144.04(I)), an obvious change in size/proportion (MPEP 2144.04(IV)(A)), or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by Blackburn.

Shoe teaches a method for constructing a slab casting formwork having studs for patterning a concrete joint which are removed after a slab is cured, and Blackburn

teaches the use of a former for patterning concrete joints. It would have been obvious to substitute Blackburn's studded plate for the studs of Shoe because (a) Shoe teaches that the formers are used to produce cavities in slabs, and the Blackburn former suggests casting of slabs, or (b) one would have recognized the interlocking pattern provided by the Blackburn former as an interchangeable substitute for the pattern provided on the Shoe forms.

Modified Shoe does not appear to explicitly disclose that the volume below the bridges or backs of the studded plate is vacant. However, Blackburn's studded plate at figures 1-11 closely depicts this feature, and this feature would have been an obvious aesthetic design change (MPEP 2144.04(I)), an obvious change in size/proportion (MPEP 2144.04(IV)(A)), or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by modified Shoe.

Note: in the alternative that it is ultimately determined that the bridges/backs of modified Shoe do not lie within the claimed plane (between the surface of the studs and the surface of the plate), this feature would have been an obvious aesthetic design change (MPEP 2144.04(I)) or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by modified Shoe.

11. As to claims 2 and 15, Blackburn does not appear to explicitly disclose the height or distance between the studs. However, it would have been obvious to optimize the stud heights and distances of Blackburn particularly in view of Blackburn's teaching that the studs can be of any size, shape, depth, or relative spacing (column 6 lines 37-38). Additionally, this feature would have been an obvious aesthetic design change (MPEP

2144.04(I)), an obvious change in size/proportion (MPEP 2144.04(IV)(A)), or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by modified Shoe.

12. As to claims 8, 10, and 11, if the prior art is capable of performing the intended use of a claim, the claim is met (MPEP 2111.02). Since the claims point to an intended use, and since modified Shoe is capable of performing this intended use, the claims are met. The orientation of the final pattern (claim 11) also points to an intended use that the prior art is capable of meeting, so claim 11 is additionally met.

13. As to claim 12, if the prior art is capable of performing the intended use of a claim, the claim is met (MPEP 2111.02). Since using the modified denticulation method described in the rejection of claim 1 for either on site fabrication or prefabrication is an intended use, and since modified Shoe is capable of performing this intended use, the claim is met.

14. As to claims 13, 17, and 21-24, Shoe teaches in a method of denticulation of cast joints between concrete components (2:54-56): assembling a form at the location of a concrete joint by attaching formwork components together (1:60 - 2:19, figures 1-2), using the form to cast a first slab therein (2:29-32), stripping the form from a cured slab (3:35-40), and casting adjacent slabs to be keyed with the first slab using protrusions 39 formed therein (2:54-56). The slab can be made from concrete (abstract, 1:60-64).

Shoe does not appear to explicitly disclose the specific requirements for the patterned formwork. However, Blackburn teaches in a method for producing pavement-like structures: using a patterned former to pattern a joint between two concrete components (1:60-65). The former can remain in situ or be removed at some stage

during construction (abstract). More specifically, the former can either be left intact at the concrete joint, or all/some of the former can be removed at the concrete joint (5:45-55). The former is a studded plate having backs and bridges between square studs positioned laterally/longitudinally in relation to each other in a pattern (figures 2-3 and 8-9). The backs and bridges make up a lattice-like network of inter-communicating channels on the underside of the studded plate (6:41-43). At figures 2, 3, 8, and 9, the backs and bridges comprise a vertex which constitutes an area that is parallel to, separate from, and between (a) a plane comprising the tops of the studs, and (b) a plane comprising the surface of the studded plate. The studs appear to have a stud side wall inclination angle greater than  $60^\circ$  (figures 8-9). In the alternative that the studs do not have the required inclination angle, it would have been obvious to substitute the required inclination angle for the inclination angle of the studs in Blackburn's depicted plate because the studs can be of any size, shape, depth, or relative spacing (6:37-38), and the claimed design would have been an obvious change in aesthetic design (MPEP 2144.04(I)), an obvious change in size/proportion (MPEP 2144.04(IV)(A)), or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by Blackburn.

Shoe teaches a method for constructing a slab casting formwork having studs for patterning a concrete joint which are removed after a slab is cured, and Blackburn teaches the use of a former for patterning concrete joints. It would have been obvious to substitute Blackburn's studded plate for the studs of Shoe because (a) Shoe teaches that the formers are used to produce cavities in slabs, and the Blackburn former suggests casting of slabs, or (b) one would have recognized the interlocking pattern



provided by the Blackburn former as an interchangeable substitute for the pattern provided on the Shoe forms.

Modified Shoe thus teaches using a studded plate to pattern a joint between two concrete components. Modified Shoe does not appear to explicitly disclose using the studded plate to pattern concrete joints of large concrete components such as in box walls in a free balanced cantilever, in tunnels, in walls for buildings/dams, or in containers. However, if the prior art is capable of performing the intended use of a claim, the claim is met (MPEP 2111.02). Since using denticulation to pattern these types of components is an intended use, and since modified Shoe is capable of performing this intended use, the claims are met.

Modified Shoe does not appear to explicitly disclose that the volume below the bridges or backs of the studded plate is vacant. However, Blackburn's studded plate at figures 1-11 closely depicts this feature, and this feature would have been an obvious aesthetic design change (MPEP 2144.04(I)), an obvious change in size/proportion (MPEP 2144.04(IV)(A)), or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by modified Shoe.

Note: in the alternative that it is ultimately determined that the bridges/backs of modified Shoe do not lie within the claimed plane (between the surface of the studs and the surface of the plate), this feature would have been an obvious aesthetic design change (MPEP 2144.04(I)) or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by modified Shoe.

15. As to claims 14 and 16, Blackburn does not appear to explicitly disclose the height or distance between the studs. However, it would have been obvious to optimize the stud heights and distances of Blackburn particularly in view of Blackburn's teaching that the studs can be of any size, shape, depth, or relative spacing (column 6 lines 37-38). Additionally, this feature would have been an obvious aesthetic design change (MPEP 2144.04(I)), an obvious change in size/proportion (MPEP 2144.04(IV)(A)), or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by modified Shoe.

16. As to claims 18-20, Blackburn teaches the use of a studded plate that has studs positioned in relation to one another in a square diamond or polygonal pattern (figure 9). Additionally, in a 3x4 block of studs, a hexagonal positioning pattern is present between the two center studs in rows 1 and 3 and the two outer studs in row 2.

17. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shoe et al. (US 3,823,465) in view of Blackburn (US 3,802,790) as applied to claims 1, 2, 8, and 10-24 above, and further in view of Schertzberg et al. (US 2002/0009566). As to claim 9, modified Shoe does not appear to explicitly disclose that the face of the studded plate comprises a hose or string of swellable rubber that is partly cast into the first cast section. However, Schertzberg teaches in a method of constructing an injection hose: embedding an injection hose in a concrete cast section in order to fill voids left in concrete joints [0004]. It would have been obvious to incorporate the embedded hose of

Schertzberg as an improvement to the modified Shoe method to help provide further reinforcement to the cast concrete joint.

**Alternative rejections over Shoe in view of Blackburn and White**

18. Claims 1, 2, 8, and 10-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shoe et al. (US 3,823,465) in view of Blackburn (US 3,802,790) and White (US 3,458,168).

19. As to claim 1, Shoe teaches in a method of denticulation of a concrete joint between a first and second cast section (2:54-56): assembling a form at the location of a concrete joint by attaching formwork components together (1:60 - 2:19, figures 1-2), using the form to cast a first slab therein (2:29-32), stripping the form from a cured slab (3:35-40), and casting adjacent slabs to be keyed with the first slab using protrusions 39 formed therein (2:54-56). The slab can be made from concrete (abstract, 1:60-64).

Shoe does not appear to explicitly disclose the specific requirements for the patterned formwork. However, Blackburn teaches in a similar concrete casting method: using a patterned former to pattern a joint between two concrete components (1:60-65). The former can remain in situ or be removed at some stage during construction (abstract). More specifically, the former can either be left intact at the concrete joint, or all/some of the former can be removed at the concrete joint (5:45-55). The former is a studded plate having backs and bridges between square studs positioned laterally/longitudinally in relation to each other in a pattern (figures 2-3 and 8-9). The backs and bridges make up a lattice-like network of inter-communicating channels on

the underside of the studded plate (6:41-43). At figures 2, 3, 8, and 9, the backs and bridges comprise a vertex which constitutes an area that is parallel to, separate from, and between (a) a plane comprising the tops of the studs, and (b) a plane comprising the surface of the studded plate. The studs appear to have a stud side wall inclination angle greater than 60° (figures 8-9). In the alternative that the studs do not have the required inclination angle, it would have been obvious to substitute the required inclination angle for the inclination angle of the studs in Blackburn's depicted plate because the studs can be of any size, shape, depth, or relative spacing (6:37-38), and the claimed design would have been an obvious change in aesthetic design (MPEP 2144.04(I)), an obvious change in size/proportion (MPEP 2144.04(IV)(A)), or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by Blackburn.

Shoe teaches a method for constructing a slab casting formwork having studs for patterning a concrete joint which are removed after a slab is cured, and Blackburn teaches the use of a former for patterning concrete joints. It would have been obvious to substitute Blackburn's studded plate for the studs of Shoe because (a) Shoe teaches that the formers are used to produce cavities in slabs, and the Blackburn former suggests casting of slabs, or (b) one would have recognized the interlocking pattern provided by the Blackburn former as an interchangeable substitute for the pattern provided on the Shoe forms.

Modified Shoe does not appear to explicitly disclose that the volume below the bridges or backs of the studded plate is vacant. However, this feature is met by modified Shoe as described in the rejection of claim 9 above. In the alternative that it is ultimately

determined that this feature is not met by modified Shoe alone: White teaches a studded plate for patterning concrete components which incorporates narrow openings to evacuate water and water vapor while the concrete cures (abstract, figure 1). These narrow openings constitute vacancies below the surface of the studded plate. It would have been obvious to incorporate White's teaching (vacancies below the surface of the studded plate) into modified Shoe's studded plate (including at the backs and bridges thereof) in order to evacuate water and water vapor while the concrete cures. Alternatively, White's studded plate is shown to have vacancies below each of the elements protruding from the surface thereof (figure 1). It would have been obvious to incorporate this design into modified Shoe's studded plate because (a) modified Shoe already teaches utilizing a similar studded plate for patterning concrete joints, and (b) White's design (including the vacancies below each of the plate's protruding elements) was known to a person having ordinary skill in the art.

Note: in the alternative that it is ultimately determined that the bridges/backs of modified Shoe do not lie within the claimed plane (between the surface of the studs and the surface of the plate), this feature would have been an obvious aesthetic design change (MPEP 2144.04(I)) or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by modified Shoe.

20. As to claims 2 and 15, Blackburn does not appear to explicitly disclose the height or distance between the studs. However, it would have been obvious to optimize the stud heights and distances of Blackburn particularly in view of Blackburn's teaching that the studs can be of any size, shape, depth, or relative spacing (column 6 lines 37-38).

Additionally, this feature would have been an obvious aesthetic design change (MPEP 2144.04(I)), an obvious change in size/proportion (MPEP 2144.04(IV)(A)), or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by modified Shoe.

21. As to claims 8, 10, and 11, if the prior art is capable of performing the intended use of a claim, the claim is met (MPEP 2111.02). Since the claims point to an intended use, and since modified Shoe is capable of performing this intended use, the claims are met. The orientation of the final pattern (claim 11) also points to an intended use that the prior art is capable of meeting, so claim 11 is additionally met.

22. As to claim 12, if the prior art is capable of performing the intended use of a claim, the claim is met (MPEP 2111.02). Since using the modified denticulation method described in the rejection of claim 1 for either on site fabrication or prefabrication is an intended use, and since modified Shoe is capable of performing this intended use, the claim is met.

23. As to claims 13, 17, and 21-24, Shoe teaches in a method of denticulation of cast joints between concrete components (2:54-56): assembling a form at the location of a concrete joint by attaching formwork components together (1:60 - 2:19, figures 1-2), using the form to cast a first slab therein (2:29-32), stripping the form from a cured slab (3:35-40), and casting adjacent slabs to be keyed with the first slab using protrusions 39 formed therein (2:54-56). The slab can be made from concrete (abstract, 1:60-64).

Shoe does not appear to explicitly disclose the specific requirements for the patterned formwork. However, Blackburn teaches in a method for producing pavement-like structures: using a patterned former to pattern a joint between two concrete

components (1:60-65). The former can remain in situ or be removed at some stage during construction (abstract). More specifically, the former can either be left intact at the concrete joint, or all/some of the former can be removed at the concrete joint (5:45-55). The former is a studded plate having backs and bridges between square studs positioned laterally/longitudinally in relation to each other in a pattern (figures 2-3 and 8-9). The backs and bridges make up a lattice-like network of inter-communicating channels on the underside of the studded plate (6:41-43). At figures 2, 3, 8, and 9, the backs and bridges comprise a vertex which constitutes an area that is parallel to, separate from, and between (a) a plane comprising the tops of the studs, and (b) a plane comprising the surface of the studded plate. The studs appear to have a stud side wall inclination angle greater than  $60^\circ$  (figures 8-9). In the alternative that the studs do not have the required inclination angle, it would have been obvious to substitute the required inclination angle for the inclination angle of the studs in Blackburn's depicted plate because the studs can be of any size, shape, depth, or relative spacing (6:37-38), and the claimed design would have been an obvious change in aesthetic design (MPEP 2144.04(I)), an obvious change in size/proportion (MPEP 2144.04(IV)(A)), or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by Blackburn.

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suggests casting of slabs, or (b) one would have recognized the interlocking pattern provided by the Blackburn former as an interchangeable substitute for the pattern provided on the Shoe forms.

Modified Shoe thus teaches using a studded plate to pattern a joint between two concrete components. Modified Shoe does not appear to explicitly disclose using the studded plate to pattern concrete joints of large concrete components such as in box walls in a free balanced cantilever, in tunnels, in walls for buildings/dams, or in containers. However, if the prior art is capable of performing the intended use of a claim, the claim is met (MPEP 2111.02). Since using denticulation to pattern these types of components is an intended use, and since modified Shoe is capable of performing this intended use, the claims are met.

Modified Shoe does not appear to explicitly disclose that the volume below the bridges or backs of the studded plate is vacant. However, this feature is met by modified Shoe as described in the rejection of claim 9 above. In the alternative that it is ultimately determined that this feature is not met by modified Shoe alone: White teaches a studded plate for patterning concrete components which incorporates narrow openings to evacuate water and water vapor while the concrete cures (abstract, figure 1). These narrow openings constitute vacancies below the surface of the studded plate. It would have been obvious to incorporate White's teaching (vacancies below the surface of the studded plate) into modified Shoe's studded plate (including at the backs and bridges thereof) in order to evacuate water and water vapor while the concrete cures. Alternatively, White's studded plate is shown to have vacancies below each of the



elements protruding from the surface thereof (figure 1). It would have been obvious to incorporate this design into modified Shoe's studded plate because (a) modified Shoe already teaches utilizing a similar studded plate for patterning concrete joints, and (b) White's design (including the vacancies below each of the plate's protruding elements) was known to a person having ordinary skill in the art.

Note: in the alternative that it is ultimately determined that the bridges/back of modified Shoe do not lie within the claimed plane (between the surface of the studs and the surface of the plate), this feature would have been an obvious aesthetic design change (MPEP 2144.04(I)) or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by modified Shoe.

24. As to claims 14 and 16, Blackburn does not appear to explicitly disclose the height or distance between the studs. However, it would have been obvious to optimize the stud heights and distances of Blackburn particularly in view of Blackburn's teaching that the studs can be of any size, shape, depth, or relative spacing (column 6 lines 37-38). Additionally, this feature would have been an obvious aesthetic design change (MPEP 2144.04(I)), an obvious change in size/proportion (MPEP 2144.04(IV)(A)), or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by modified Shoe.

25. As to claims 18-20, Blackburn teaches the use of a studded plate that has studs positioned in relation to one another in a square diamond or polygonal pattern (figure 9). Additionally, in a 3x4 block of studs, a hexagonal positioning pattern is present between the two center studs in rows 1 and 3 and the two outer studs in row 2.

26. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shoe et al. (US 3,823,465) in view of Blackburn (US 3,802,790) and White (US 3,458,168) as applied to claims 1, 2, 8, and 10-24 above, and further in view of Schertzberg et al. (US 2002/0009566). As to claim 9, modified Shoe does not appear to explicitly disclose that the face of the studded plate comprises a hose or string of swellable rubber that is partly cast into the first cast section. However, Schertzberg teaches in a method of constructing an injection hose: embedding an injection hose in a concrete cast section in order to fill voids left in concrete joints [0004]. It would have been obvious to incorporate the embedded hose of Schertzberg as an improvement to the modified Shoe method to help provide further reinforcement to the cast concrete joint.

### ***Response to Arguments***

27. Applicant's arguments filed 02 December 2010 have been fully considered but they are not persuasive. The arguments appear to be on the grounds that Blackburn does not teach that the backs or bridges comprise an area that is within a plane that is between the plane comprising the tops of the stud and the plane comprising the surface of the studded plate (Remarks pp. 10-12). This is not found persuasive because as described by Applicant at Remarks p. 10, Blackburn identifies surface 9a as an upper surface of the base sheet (3:28-30). Figures 2-3 of Blackburn are a side and top view of the same studded plate. Figure 3 shows backs and bridges located between adjacent studs, and figure 3 identifies the plate's surface 9a, which is clearly visible in a top view

of the plate. Figure 2 identifies the plate's surface 9a as a dotted line located beneath backs/bridges which are clearly present between adjacent studs. Blackburn 4:44-50 further describes how the backs/bridges extend between the studs (above the surface of the studded plate). Figures 8-9 of Blackburn are similar in that figure 8 identifies the plate's surface (with a dotted line) below the backs/bridges, and figure 9 shows clearly the plate's surface from a top view. It is additionally and alternatively noted that forming the backs/bridges on the studded plate as claimed (to lie in a plane that is between the surface of the studs and the surface of the plate) would have been an obvious aesthetic design change (MPEP 2144.04(I)) or an obvious change in shape (MPEP 2144.04(IV)(B)) of the studded plate taught by modified Shoe.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ATUL KHARE whose telephone number is (571)270-7608. The examiner can normally be reached on Monday-Thursday 7:30 a.m. - 5:00 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571)272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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